

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-027777**Date Inspected:** 15-Jun-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** As noted below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS OBG**Summary of Items Observed:**

Quality Assurance Inspector (QA) Douglas Frey was at the American Bridge/Fluor (ABF) job site at Yerba Buena Island in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

Electroslag Weld Repairs

This QA Inspector randomly observed Shielded Metal Arc Welding (SMAW) in the 3G vertical position on tower shear plate designated as ESW weld, location "F" from face B initiated on 6/14/2012. ABF/JV qualified welder Xiao Hua Luo #1291 was observed pre-heating the joint prior to welding and utilized 3.2mm E7018-H4R electrodes drawing amperage of 126. QC Inspector Bernard Docena was present to monitor the welding and the parameters as they pertain to ABF-WPS-D1.5-1001-Repair. Between passes the welder was observed cleaning the work using a small disc grinder as QC measured the inter-pass temperatures with Tempilstik Heat Indicators. On a subsequent observation, it was noted that the welder was continuing the in process welding. This QA Inspector noted that the 3.2mm electrodes were stored in electrically heated thermostatically controlled oven after removal from the sealed containers. The exposure limits of the electrodes appeared to comply with the minimum storage oven temperature of 120 degrees Celsius as per the contract documents. The welding parameters and surface temperatures were verified by the QC inspector's utilizing a Fluke 337 clamp meter to measure the electrical welding parameters. At the time of the observations no issues were noted by the QA. On subsequent observations throughout the shift to monitor quality, it was noted that the work was completed and appeared to be in general conformance with the contract documents.

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This QA Inspector randomly observed ABF/JV qualified welder Xiao Jian Wan #9677 performing Flux Core Arc Welding (FCAW) using E71T-1M ESAB Dual Shield 70 Ultra Plus electrodes and implementing Caltrans approved Welding Procedure Specification's (WPS) ABF-WPS-D1.5-3000-3-Repair. The joint being welded was tower shear plate designated as ESW weld, location "T" from face A. Location for this repair was: Weld "T" – Y=8700mm. During welding, ABF Quality Control (QC) Jesse Cayabyab was noted monitoring the welding parameters (Amps, Volts and Travel Speed). This QA Inspector noted that between passes the welder was cleaning the work using a small disc grinder as QC measured the inter-pass temperatures with Tempilstik Heat Indicators. At the time of the observations no issues were noted by this QA Inspector. On subsequent observations to monitor quality, it was noted that the work was completed and appeared to be in general conformance with the contract documents.

This QA Inspector made random observations of ABF/JV qualified welder Jin Pei Wang #7299 performing SMAW in the 3G vertical position on tower shear plate designated as ESW weld, location "R" from face B initiated on 6/14/2012. This QA Inspector observed QC Inspector Jesse Cayabyab verify prior to the start of welding operations, that the minimum preheat temperature as per the approved WPS was established; and afterwards verified that the welding parameters (Amps) were in accordance with ABF-WPS-D1.5-1001-Repair. The welder was observed grinding and blending the start/stop edges of the work utilizing a small disc grinder and compressed air in between passes. This QA Inspector noted that the 3.2mm electrodes were stored in electrically heated, thermostatically controlled oven after removal from the sealed containers. The exposure limits of the electrodes appeared to comply with the minimum storage oven temperature of 120 degrees Celsius as per the contract documents. The welding parameters and surface temperatures were verified by the QC inspector's utilizing a Fluke 337 clamp meter to measure the electrical welding parameters and Tempilstik Heat Indicators for verifying the preheat and inter-pass temperatures. At the time of the observations no issues were noted by the QA. On subsequent observations throughout the shift to monitor quality, it was noted that the work was completed on this date and appeared to be in general conformance with the contract documents.

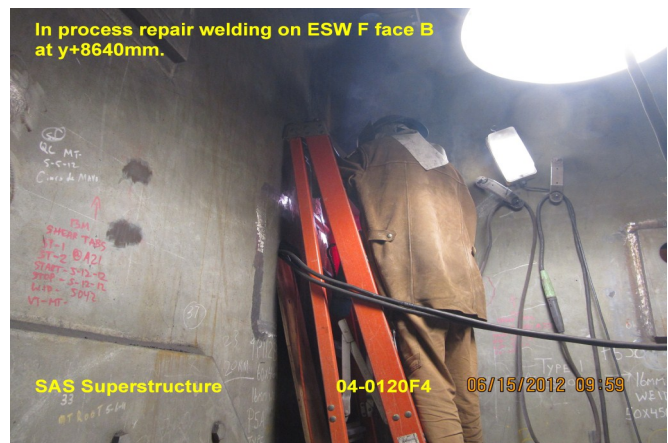
This QA Inspector randomly observed ABF/JV qualified welder Xiao Hua Luo #1291 performing SMAW using 3.2mm" diameter E7018-H4R electrodes and implementing Caltrans approved Welding Procedure Specification's (WPS) ABF-WPS-D1.5-1001-Repair. The joint being welded was tower shear plate designated as ESW weld, location "F" from face B. Location for this repair was: Weld "F" – Y=8640mm. During welding, ABF QC Bernard Docena was noted monitoring the welding parameters. Welding parameters were recorded as (A=125). This QA Inspector noted that between passes the welder was cleaning the work using a small disc grinder as QC measured the inter-pass temperatures with Tempilstik Heat Indicators. At the time of the observations no issues were noted by this QA Inspector. On subsequent observations to monitor quality, it was noted that the work was completed and appeared to be in general conformance with the contract documents.

Summary of Conversations:

Conversations were relevant to welding performed and information unique with each location.

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Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy 510-385-5910 , who represents the Office of Structural Materials for your project.

Inspected By: Frey,Doug

Quality Assurance Inspector

Reviewed By: Levell,Bill

QA Reviewer